November 5, 1947

Professor A. Boivin
Universite de Strasbourg
Faculte de Medicine
Institut de Chimie Biologique
Strasbourg, France

Dear Professor Boivin:

Several days ago we sent you lyophilized cultures of a number of biochemical mutants derived from your C_2 strain of E. coli. I am enclosing a key to these strains. You will notice that strain Y114 has a double requirement for isoleucine and valine, probably as the result of a single gene mutation, since its requirements are analogous to Neurospora strain 16117 which is known to result from a single gene change. You will notice also that two double mutant strains (Y132 and Y134) are slow to respond to glycine and threonine respectively. Strains Y117 and 118 are probably the same, as may be strains 141, 142, and 143.

We have as yet no information on recombination or transformation of these characters, although experiments are now in progress both here and at the University of Wisconsin, where Lederberg is now located in the Genetics Department.

The mutants sent you were obtained by the detection technique following treatment with desoxycholate. However, no controls were run, so that the treatment may or may not have induced the mutations. We are now obtaining mutants in C_1 by treatment with nitrogen mustard. As soon as these are available, they will be sent you. Lederberg and I will also try transformation experiments with these mutant strains, as I discussed with you last spring by letter. We will keep you advised of our results in these experiments. Perhaps the best thing to do—if they work—will be for all three of us (you, Lederberg, and myself) to check the transformation results independently, and publish a joint note, perhaps in Nature. From there on, I would suggest independent publication of further results. I would appreciate hearing your wishes and preferences in this regard.

I am sending separately a reprint of the recombination paper in the Journal of Bacteriology.

With very best wishes,

Yours sincerely,

O.K.? Any comments? E.L.

E. L. Tatum
Professor of Microbiology

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Enc.

Cultures of Biochemical Mutants of E. coli (C_2)

Sent to Professor A. Boivin 10-31-47

Yale No.	Derived from	Requirement	Comments
Y 114	C_2	isoleucine + valine	similar to Neurospora S-16117
Y 117	"	arginine	
Y 118	"	arginine	
Y 120	"	valine	
Y 121	"	cystine	
Y 132	Y 117	arginine + glycine	slow response to glycine (60 hours)
Y 133	"	arginine + lysine	
Y 134	"	arginine + threonine	slow response to threonine (60 hours)
Y 137	"	arginine + tryptophane	
Y 138	"	arginine + leucine	
Y 139	"	arginine + histidine	
Y 141	Y 114	isoleucine + valine + arginine	
Y 142	"	isol. + val. + arginine	requires only arg.
Y 143	"	isol. + val. + arginine	